



LTOC removes CO for race car drivers



*"They're going around the track at more than 190 miles an hour ... When they close that helmet and that visor and hook up the cooling system they breathe good, clean air. That really helps the drivers."*

**Matt Davis, Consulting Engineer  
Penske Engineering**

## Low Temperature Oxidation Catalyst

### Purifying Air Catalyst Opening New Markets

Penske Racing South developed an air-purifying system for race cars using the NASA low temperature oxidation catalyst. In race cars, at very high speeds and temperatures, the catalyst must constantly remove carbon monoxide and other harmful gases before they affect drivers' health. The catalyst is made by STC Catalysts Inc. (SCi), a subsidiary of Science and Technology Corporation in Hampton, Virginia, a co-inventor of the original catalyst.

#### Technology ...

NASA scientists designed a one-of-a-kind catalyst to help space lasers perform at peak capacity. The catalyst was designed to recycle and recapture carbon dioxide, a source of laser power. The system of which it was a part had to be foolproof and failsafe. The extremes of space operation require tough, durable, efficient systems that operate reliably under extreme conditions with little or no maintenance.

#### Worth Noting ...

- The catalyst's capabilities derive from a unique surface chemistry and air flow over and through a formulation of platinum and tin oxide incorporated in a granular form.
- The catalyst must constantly remove carbon monoxide and other harmful gases before they affect drivers' health.
- Taking innovation from benchtop to marketplace has taken nearly a decade.

#### Measurable Impact ...

- eliminates the flu-like symptoms like headaches, fatigue and dizziness that have traditionally lingered for days after races
- The catalyst in the breathing apparatus is about the dimension of an oversize coffee mug without a handle
- The company had to upgrade its laboratory, add staff and triple production capability to keep up with market demand

#### To Learn More ...

[www.penskeracing.com](http://www.penskeracing.com)

<http://technology.nasa.gov/>

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